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# PATENT SPECIFICATION



Application Date: Oct. 6, 1926. No. 24,747/26.

278,523

Complete Left: July 1, 1927.

Complete Accepted: Oct. 13, 1927.

## PROVISIONAL SPECIFICATION.

### Automatic Safety Lock for Railway Passenger Carriages or the like.

I, HENRY THOMAS WITTS, No. 18, St. Mary Street, Chippenham, Wiltshire, Foundry Worker, British, do hereby declare the nature of this invention to be as follows:—

In accordance with my invention I make an electro-magnetic coil, and certain other parts, which will be necessary for working my invention. To bring my invention into use I propose to attach an electro-magnetic coil to the uppermost part of door frame. This will stand vertically when placed in position. I then provide a plate or bolt retainer which will be provided with the necessary holes for fixing to the frame. This will be set into position directly beneath the magnet and will be provided with hole in centre which is intended to receive and hold the bolt. I then make a drop or lift bolt which will work in connection with the magnet. This will rest in a socket which is attached to the uppermost or top side of door and will be directly beneath the magnet when the door is closed. Now when door is in latter position it may be locked by passing electric current through the coil.

This turns the coil into an electric magnet which lifts the bolt and locks the door. For unlocking the door the reverse applies i.e. by switching off the current the bolt drops simply by the force of gravity and the door becomes unlocked.

Now I have arranged that the lock when used upon railway passenger carriages can be worked automatically. I propose to attach a small electric generator beneath the carriage which will be worked off axle or wheel shaft of the carriage, so that when the carriage is in motion the door will automatically become locked, and unlocked, as soon as the carriage is at rest, or the locks can be controlled by the guard or the conductor from the brake van by means of an accumulator or any other source of electricity and a simple connection between the carriages.

This lock can also be used by banks, post offices, or anywhere where an emergency lock is required.

Dated the 5th day of October, 1926.

H. T. WITTS.

## COMPLETE SPECIFICATION.

### Automatic Safety Lock for Railway Passenger Carriages or the like.

I, HENRY THOMAS WITTS, 33, Ladyfield Road, Chippenham, Wiltshire, late of 18, St. Mary Street, Chippenham, Wilts, British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and

ascertained in and by the following statement:—

My invention relates to an automatic safety lock as shown in the accompanying drawing. An ebonite hollow tube or former A is wound with a series of insulated wire B one end of which wire

C being led to the generator, and the other end C<sup>1</sup> led on to the next door and lock, and so on round the carriages or train until circuit is completed. The coil is then enclosed in an ebonite case D. The whole is then enclosed in a brass case E with hole in centre of bottom which is intended to receive and hold the bolt when the door is locked and a flange for fixing. A soft iron core with head F shown in position and F<sup>1</sup> shown withdrawn, with a small copper plug G inset in bottom end to prevent the bolt sticking when released, is inserted loose inside coil. The casing is fixed to the frame above the door. On the top end of the door directly underneath the solenoid is fixed a hollow brass socket or bolt retainer H with flange for fixing, in which is fitted a nickel plated bolt slightly tapered at each end I. When electric current is passed through the coil it turns the coil into an electro magnet which lifts the bolt and locks the door. When the carriage is in motion the doors can be locked either automatically from generator underneath the carriage, or from the brake van by means of accumulator and switches and connections between the carriages. When the current is switched off the bolt drops

simply by the force of gravity. In case of accident and should the carriage overturn the loose core in solenoid drops out allowing the bolt to follow it, thus allowing the door to become free.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

An improved automatic safety lock for use on railway passenger carriage doors or the like, of the type described and characterised by the combination thereof with of a soft iron core which fits loose in the hollow centre of solenoid with small copper plug inset at bottom end, a detachable brass case wherein the solenoid may be enclosed after the case is fixed into position, a nickel plated soft iron bolt which works free in its retainer and will not corrode, a hollow brass socket or retainer to hold bolt, and an ebonite case to keep coil clean, intact, and save loss of energy, the whole of which is adapted to be assembled and fixed into position with ease, and is interchangeable.

Dated the 30th day of June, 1927. 60

HENRY THOMAS WITTS.

[This Drawing is a reproduction of the Original on a reduced scale.]

